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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/018,686      | 03/25/2002  | Seiji Onishi         | 2001-1823A          | 7787             |

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| EXAMINER |
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BATTAGLIA, MICHAEL V

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| ART UNIT | PAPER NUMBER |
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2627

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/018,686

Applicant(s)

ONISHI ET AL.

Examiner

Michael V. Battaglia

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 26, 2007 has been entered.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama et al (hereafter Uchiyama) (US 6,163,409) in view of Alon (US 6,449,225) and further in view of Sasaki et al (hereafter Sasaki) (US 5,493,554).

In regard to claim 1, Uchiyama discloses an optical pickup comprising: a first light source (Figs. 1 and 2D, element 21) for emitting a first light beam with an arbitrary wavelength (Col. 6, lines 64-67); a second light source (Figs. 1 and 2C, element 11) for emitting a second light beam with a wavelength different from that of the first light beam (Col. 6, lines 61-67); a synthesizing unit (Fig. 1, element 13-1) comprising a single polyhedron beam splitter having more than six sides (Fig. 1, element 13-1), the synthesizing unit being operable to make an optical axis of the first light beam emitted from the first light source coincide with an optical axis of the second light beam that is emitted from the second light source (Col. 7, lines 49-53) and

Art Unit: 2627

separate an optical axis of reflected light from an optical disk (Fig. 1, "Optical Disk") from the coincided axis (Fig. 1 and Col. 7, lines 19-21); a conversion unit (Fig. 1, element 14) operable to convert a light beam outputted from the synthesizing unit into substantially parallel light; a converging unit (Fig. 1, element 16) operable to convert a light beam outputted from the conversion unit onto the optical disk; a light path length conversion unit (Fig. 1, element 15) comprising a single mirror provided between the synthesizing unit and the converging unit, the single mirror being operable to reflect the light beam at a slope surface thereof, thereby lengthening a light path length of the light beam (note that the light path length of the light beam is lengthened because the light path length is longer than the distance between the synthesizing unit and conversion unit (Pythagorean Theorem)); and a detecting unit (Fig. 1, elements 17 and 27) operable to receive the light beam reflected on the optical disk, wherein when a back focus (Fig. 2D, element A) of the conversion unit for the wavelength of the first light source is  $f_1$  and a back focus (Fig. 2C, element A) of the converting means for the wavelength of the second light source is  $f_2$ , the first light source is located at a position closer to the conversion unit than a position located apart from the conversion unit by  $f_1$  (Fig. 2D), and the second light source is located at a position farther from the conversion unit than a position located apart from the conversion unit by  $f_2$  (Fig. 2C). It is noted that the synthesizing unit of Uchiyama is an optical unit.

Uchiyama does not disclose that the single mirror is a single prism mirror and that the light beam passes therethrough. Uchiyama also does not disclose that the synthesizing unit comprises a hexahedron beam splitter, and that second light beam is in a direction perpendicular to the first light beam.

Alon discloses light path length conversion unit (Fig. 3B, element 37) comprising a single prism mirror (Col. 5, lines 67) provided between an optical unit (Fig. 3B, element 36) and a converging unit (Fig. 3B, element 18) and positioned such that a light beam passes therethrough (Fig. 3B), the single prism mirror being operable to reflect the light beam passing therethrough at a slope surface thereof, thereby lengthening a light path length of the light beam (note that the light path length of the light beam is lengthened because the light path length is longer than the distance between the optical unit and conversion unit (Pythagorean Theorem)).

Therefore, the light path length conversion unit of Alon was an art-recognized equivalent to the light path length conversion unit of Uchiyama for the purpose of lengthening a light path length of a light beam and one of ordinary skill would have found it obvious to use either one in the optical pickup of Uchiyama including the light path length conversion unit of Alon, wherein the light beam passes therethrough, for lengthening a light path length of the light beam of Uchiyama.

In the optical pickup of Uchiyama in view of Alon, the synthesizing unit of Uchiyama does not comprise a hexahedron beam splitter, and that second light beam is not in a direction perpendicular to the first light beam.

Sasaki discloses a synthesizing unit (Fig. 1, element 9) comprising a hexahedron beam splitter (Fig. 1, element 9), the synthesizing unit operable to make an optical axis of a first light beam (Fig. 1, elements 116 and 117) emitted from a first light source (Fig. 1, element 1) coincide with an optical axis of a second light beam (Fig. 1, elements 113 and 114) that is emitted from a second light source (Fig. 1, element 6) in a direction perpendicular to the first light beam (Fig. 1

Art Unit: 2627

and Col. 21, lines 58-63 of Sasaki) and separate an optical axis of reflected light (Fig. 1, element 115) from an optical disk from the coincided optical axis (Fig. 1 and Col. 6, lines 13-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the synthesizing unit of Uchiyama in the optical pickup device of Uchiyama in view of Alon to comprise a hexahedron beam splitter, and for the second light beam of Uchiyama to be in a direction perpendicular to the first light beam of Uchiyama as suggested by Sasaki, the motivation being for the optical pickup device of Uchiyama in view of Alon to have a synthesizing unit and perpendicular arrangement of first and second light beams so that "the optical parts can be simply arranged and the optical head can be easily manufactured" and "provided at low costs" (Col. 21, lines 58-63 of Sasaki).

It is noted that Uchiyama teaches that positioning the first and second light sources the synthesizing unit receives the second light beam from a direction that is not perpendicular to a direction of the first light beam will help reduce the size of the optical pickup (Col. 7, lines 49-53). However, the tradeoffs between reduced size brought about by complex arrangement of optical parts and reduced cost brought about by simple arrangement of optical parts are notoriously well known in the art. One of ordinary skill in the art at the time of the invention would have found it obvious to forego complexities associated with reduced size in favor of simplicity and the resulting cost reduction and ease of manufacture suggested by Sasaki.

In regard to claim 13, in the optical pickup device of Uchiyama in view of Alon and further in view of Sasaki, the optical axis of the reflected light is perpendicular to the coincided optical axis (note that the reflected light between the disk and light path lengthening unit is perpendicular to the coincided optical axis in Uchiyama (Fig. 1) and that the light reflected light

from the disks of Alon and Sasaki both are then reflected at 90 degrees to be perpendicular to the light reflected immediately from the disk (see Fig. 3B, element 37 of Alon and Fig. 1, element 15 of Sasaki)).

### *Response to Arguments*

3. Applicant's arguments filed February 26, 2007 have been fully considered but they are not persuasive. Applicant argues that Sasaki does not disclose a synthesizing unit comprising a single hexahedron beam splitter because Sasaki instead discloses using three beam splitters to achieve a parallel optical axis and redirect reflected light to the photodetectors of Sasaki (see Page 4, last full paragraph-Page 5 of Applicant's Remarks).<sup>1</sup>

To begin, it is noted that "[t]he transitional term 'comprising', [*sic*] which is synonymous with 'including,' 'containing,' or 'characterized by,' is inclusive or open-ended and does not exclude additional, unrecited elements" (MPEP 2111.03). Therefore, the claimed "synthesizing unit comprising a single hexahedron beam splitter" would read on a synthesizing unit comprising three beam splitters as long as at least one of the beam splitters is a single hexahedron beam splitter.

However, the open-ended interpretation of the "comprising" in the claimed "synthesizing unit comprising a single hexahedron beam splitter" is neither needed nor used in the claim rejections above. The claimed "synthesizing unit" reads on the single hexahedron beam splitter 9 of Fig. 1 of Sasaki and the other beam splitters of Sasaki (Fig. 1, elements 2 and 7) are not used

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<sup>1</sup> Applicant's discussion regarding no disclosure of a single hexahedron beam splitter in Uchiyama and Alon is moot because, in the combination of Uchiyama, Alon and Sasaki, only Sasaki is relied upon as disclosing a single hexahedron beam splitter.

in the combination of Uchiyama in view of Alon and further in view of Sasaki (i.e. the synthesizing unit of Sasaki **consists** (exclusive) of a single hexahedron beam splitter).

The synthesizing unit of Sasaki (Fig. 1, element 9), which is a hexahedron beam splitter, performs both the claimed functions of making the first and second light beams coincide and separating reflected light from the coincided axis (see rejection of claim 1 above). In response to applicant's argument that the synthesizing unit of Sasaki (Fig. 1, element 9) requires two additional beam splitters to redirect reflected light to the photodetectors of Sasaki, it is noted that the features upon which applicant relies (i.e., that the synthesizing unit by itself redirects reflected light to photodetectors) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).<sup>2</sup>

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Battaglia whose telephone number is (571) 272-7568. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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<sup>2</sup> Also note that the synthesizing unit in Applicant's disclosed invention (Fig. 2, element 3) does not by itself redirect reflected light to Applicant's photodetectors because the holograms of the hologram-detector combination laser units (Fig. 1, elements 1 and 2) redirect the reflected light directly to detectors.




Art Unit: 2627

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Michael Battaglia

  
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